

MIHAIL POPESCU

BUSINESS ADDRESS

Health Management and Informatics Dept.
University of Missouri-Columbia
CE715 CS&E Bldg., DC006.00
One Hospital Dr., Columbia, MO 65212
(573) 882-1266
popescum@missouri.edu

HOME ADDRESS

1018 Sycamore Ln.
Columbia, MO 65203
(573)529-6146

ORCID: 0000-0002-6145-8096

EDUCATION

PhD University of Missouri-Columbia, December 2003, Computer Engineering and Computer Science;
MS University of Missouri-Columbia, May 1997, Electrical and Computer Engineering;
MS University of Missouri-Columbia, May 1995, Nuclear Engineering, (Specialization: Medical Physics);
BS Bucharest Polytechnic Institute, June 1987, Nuclear Engineering.

EMPLOYMENT EXPERIENCE

2019-present **Professor**, University of Missouri, Biomedical Informatics, Biostatistics and Medical Epidemiology Department, School of Medicine, University of Missouri-Columbia.
2012-2019 **Associate Professor**, University of Missouri, Health Management and Informatics Department, School of Medicine, University of Missouri-Columbia.
2006-2012 **Assistant Professor**, University of Missouri, Health Management and Informatics Department, School of Medicine, University of Missouri-Columbia.
2003-2006 **National Library of Medicine Postdoctoral Fellow**, University of Missouri, Health Management and Informatics Department, School of Medicine, University of Missouri-Columbia.
2000-2003 **Research Assistant**, Computer Science and Computer Engineering Department, University of Missouri-Columbia.
1996-2000 **Senior Database Programmer**, Medical Informatics Group, School of Medicine, University of Missouri-Columbia.
1993-1996 **Research Assistant**, Electrical and Computer Engineering Department, University of Missouri-Columbia.
1990-1993 **Lecturer**, Nuclear Engineering Department, Polytechnic Institute of Bucharest.

RELATED PROFESSIONAL EXPERIENCE

Reviewer

- **Associate Editor**, *IEEE Transaction on Artificial Intelligence* 2021-
- **Associate Editor**, *Smart Health* 2023-
- IEEE Transactions on fuzzy logic, 2005-2024
- IEEE Transactions on cybernetics, 2010-2024
- IEEE Journal of Biomedical and Health Informatics, 2010-2024
- Journal of Intelligent fuzzy systems, 2006-2024
- AMIA Annual Symposium 2007-2024
- IEEE International conference on fuzzy systems, 2006-2024
- PLoS ONE, 2015-2020
- (2017) PLOS ONE 2016 Reviewer and Editorial Board Thank You. PLoS ONE 12(3): e0174259. doi:10.1371/journal.pone.0174259

Adjunct appointments

- Adjunct Associate Professor of Electrical Engineering and Computer Science
- Adjunct Associate Professor of Nursing

HONORS AND AWARDS

5. Conference paper [65] was **Student paper competition finalist** at the AMIA annual symposium, 2013.
4. Conference paper [43] awarded Franklin V. Taylor Memorial Award for the “**best conference paper**” at the 2011 IEEE Systems, Man, and Cybernetics Society Conference in Anchorage, Alaska, 4-6 October, 2011.
3. Conference paper [48] awarded “**best short paper**” award at the IEEE 13th International Conf. on e-Health Networking, Applications and Services, Columbia, MO, June 13-15, 2011.
2. Poster [15] awarded “**best poster**” at the 5th International Conference on Pervasive Computing Technologies for Healthcare, Dublin, Ireland, May 23-26, 2011.
1. Conference paper [18] nominated for the **Homer R. Warner award** at the AMIA annual symposium, 2006.

REFEREED JOURNAL PAPERS

100. Shaffer, V. A., Wegier, P., Valentine, K. D., Duan, S., Canfield, S. M., Belden, J. L., Steege, L. M., **Popescu, M.**, & Koopman, “The Impact of an Enhanced Data Visualization Tool for Hypertension in the Electronic Health Record on Physician Judgments About Hypertension Control”. *J Gen Intern Med*. DOI: 10.1007/s11606-025-09381-1, 2025.
99. Farmer M, **Popescu M**, Powell KR. Development and evaluation of a 4M taxonomy from nursing home staff text messages using a fine-tuned generative language model. *Journal of American Medical Informatics Association*, doi: 10.1093/jamia/ocaf006, 2025
98. R Yi, M Popescu, JM Keller, G Scott, L Despains, Heartbeat Detection from Ballistocardiogram using Transformer Network, arXiv preprint arXiv:2412.14376, 2024.
97. A Woods, M Farmer, **M Popescu**, K Powell, Pain assessment and management in nursing home residents with ADRD: insights from interdisciplinary text messages, *Innovation in Aging*, vol. 8, Suppl1, pp 1263, 2024.
96. KK Hasan, OA Ibrahim, C Bucholtz, M Skubic, JM Keller, M Popescu, Sleep Quality Index for Sensor Data in Eldercare Monitoring. *Instrumentation, Mesures, Métrologies* 23 (6), 2024.
95. Powell, KR, Isnainy, M, Amewudah, P, Paez-Perez, D, Lee, S, Mehr, DR, Alexander, GL, **M Popescu**, “Untangling the complex web of avoidable nursing home-to-hospital transfers of residents with dementia”. *Alzheimer's & Dementia*. DOI: 10.1002/alz.14292, 2024.
94. A Braddock, P Ghosh, **M Popescu**, R Koopman, “Effectiveness of an mHealth App that Uses Financial Incentives and Gamification to Promote Health Behavior Change in Adolescents and Caregivers: Protocol for a Clinic-Based Randomized Controlled Trial”, *JMIR*, 2024.
93. Azam M, Chen Y, Arowolo MO, Liu H, **M Popescu**, Xu D. A comprehensive evaluation of large language models in mining gene relations and pathway knowledge. *Quantitative Biology*. 2024; 1–15. <https://doi.org/10.1002/qub.2.57>
92. F He, K Liu, Z Yang, Y Chen, RD Hammer, D Xu, **M Popescu**, “pathCLIP: Detection of Genes and Gene Relations from Biological Pathway Figures through Image-Text Contrastive Learning”, *IEEE J Biomed Health Inform*. 2024 Apr 3:PP. doi: 10.1109/JBHI.2024.3383610.
91. Y Chen, J Gao, M Petruc, RD. Hammer, **M Popescu**, Dong Xu, Iterative Prompt Refinement for Mining Gene Relationships from ChatGPT, *bioRxiv* 2023.12.23.573201; doi: <https://doi.org/10.1101/2023.12.23.573201>, 2024.
90. M Azam, Y Chen, M Arowolo, H Liu, **M Popescu**, D Xu, A Comprehensive Evaluation of Large Language Models in Mining Gene Interactions and Pathway Knowledge, *bioRxiv*, 2024.01. 21.576542.
89. Y Chen, J Gao, M Petruc, R Hammer, **M Popescu**, D Xu, Iterative Prompt Refinement for Mining Gene Relationships from ChatGPT, *bioRxiv*, 2023.12. 23.573201

88. M Zaid, L Sala, L Despins, D Heise, M Popescu, M Skubic, S Ahmad Cardiovascular sex-differences: insights via physiology-based modeling and potential for noninvasive sensing via ballistocardiography, *Frontiers in Cardiovascular Medicine* 10, 2023
87. F He, K Liu, Z Yang, M Hannink, RD Hammer, **M Popescu**, D Xu, "Applications of cutting-edge artificial intelligence technologies in biomedical literature and document mining", *Medical Review* 3 (3), 200-204, 2023.
86. MO Arowolo, M Azam, F He, **M Popescu**, D Xu, Annotations of Gene Pathways Images in Biomedical Publications Using Siamese Network, *International Journal of Biotechnology and Bioengineering* 17 (10), 221-225, 2023.
85. M Zaid, R Invernizzi, L Sala, L Despins, **M Popescu**, J Keller, M Skubic, "Analysis of the Contribution of Cardiovascular Compartments to the Ballistocardiogram Signal Using Mathematical Modeling", 2023 *Computing in Cardiology (CinC)* 50, 1-4
84. M. Zaid, **M. Popescu**, L. Despins, James Keller, M. Skubic, G. Guidoboni, "Noninvasive Cuffless Blood Pressure Monitoring. How Mechanism-Driven and Data-Driven Models Can Help in Clinical Practice", *J. Cardiology and Cardiovascular Med.*, 2023, <https://doi.org/10.29328/journal.jccm.1001157>
83. K.R. Powell, **M. Popescu**, S. Lee, D. Mehr, G.L. Alexander, "Examining the use of text messages among multidisciplinary care teams to reduce avoidable hospitalization of nursing home residents with dementia: Study Protocol", *JMIR*, <http://doi.org/10.2196/preprints.50231>, 2023.
82. Lee S, **Popescu M**, Osaba E. Smart Processing for Systems under Uncertainty or Perturbation. *Electronics*. 2022; 11(5):680. <https://doi.org/10.3390/electronics11050680>
81. M Azam, MO Arowolo, F He, **M Popescu**, D Xu, Recognition of Gene Names from Gene Pathway Figures Using Siamese Network, *International Journal of Bioengineering and Life Sciences* 17 (5), 23-30, 2023.
80. E Robinson, GM Tefera, G Park, M Skubic, N Marchal, **M Popescu**, J Keller, M Rantz, "Deploying in-home sensors to community-dwelling older adults: adoption of technology and lessons learned", *Innovation in Aging* 6 (Supplement_1), 741-741, 2022.
79. S Albasri, O Ibrahim, **M Popescu**, J Keller, "Clustering surges using prototypes from robotic kinematic information", *Journal of Engineering and Sustainable Dev.* 26 (5), 22-34, 2022
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77. Shaffer, V. A., Wegier, P., Valentine, K. D., Duan, S., Canfield, S. M., Belden, J. L., Steege, L. M., **Popescu, M.**, & Koopman, R. J. Patient judgments about hypertension control: The role of patient numeracy and graph literacy. *Journal of the American Medical Informatics Association*, ocac129. doi: <https://doi.org/10.1093/jamia/ocac129>, 2022.
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71. E Robinson, W Wu, G Park, G M Tefera, K Lane, M Skubic, J Keller, **M Popescu**, Comparison of Embedded Sensor Data for Long-Term Care Residents Before and After Onset of the COVID-19 Pandemic, *Innovation in Aging Journal*, Supplement 1, 2021, pp 95-96.
70. S. Albasri, **M Popescu**, S. Ahmad, J. Keller "Procrustes Dynamic Time Wrapping Analysis for Automated Surgical Skill Evaluation", *Advances in Science, Technology and Engineering Systems Journal*, vol. 6, no. 1, pp. 912-921 (2021).
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67. Wegier P, Belden JL, Canfield SM, Shafer VA, Patil SJ, LeFevre ML, Valentine KD, **Popescu M**, Steege LM, Jain A, Koopman RJ, "Home blood pressure data visualization for the management of hypertension: using human factors and design principles", *BMC Medical Informatics and Decision Making*, volume 21, Article number: 235 (2021). <https://doi.org/10.1186/s12911-021-01598-4>
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65. Powell, K. R., **M Popescu**, Alexander, G. L. (2021). Examining Social Networks in Text Messages about Nursing Home Resident Health Status. *Journal of Gerontological Nursing*, 47(7), 16-22.
64. Gargees R, J.M. Keller, **M Popescu**, Comments On "TLPCM: Transfer Learning Possibilistic C-Means": Errata and Observations, *IEEE Transactions on Fuzzy Systems* (2021), <http://dx.doi.org/10.1109/TFUZZ.2021.3058690>.
63. Gargees R, James M. Keller, **M Popescu**. "TLPCM: Transfer Learning Possibilistic C-Means." *IEEE Transactions on Fuzzy Systems* (2020).
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56. Giannaris PS, Al-Taie Z, Kovalenko M, Thanintorn N, Kholod O, Innokenteva Y, Coberly E, Frazier S, Laziuk K, **Popescu M**, Shyu CR, Xu D, Hammer RD, Shin D., "Artificial Intelligence-Driven Structurization of Diagnostic Information in Free-Text Pathology Reports", *J Pathol Inform*. 2020 Feb 11;11:4. doi: 10.4103/jpi.jpi_30_19. eCollection 2020.
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51. G. Guidoboni, L. Sala, M. Enayati, R. Sacco, M. Szopos, J. Keller, **M. Popescu**, L. Despina, V.H. Huxley, M. Skubic, "Cardiovascular function and ballistocardiogram: a relationship interpreted via mathematical modeling", *IEEE Transactions on Biomedical Engineering*, 2019 Feb 6. doi: 10.1109/TBME.2019.2897952.
50. Gargees R., Keller J.M., **Popescu M.**, Skubic M. (2019) Non-invasive Classification of Sleep Stages with a Hydraulic Bed Sensor Using Deep Learning. In: Pagán J., Mokhtari M., Aloulou H., Abdulrazak B., Cabrera M. (eds) *How AI Impacts Urban Living and Public Health*. ICOST 2019. Lecture Notes in Computer Science, vol 11862. Springer, Cham. <https://doi.org/10.1007/978-3-030-32785-9>
49. Su B. Y., Enayati M., Ho D., Skubic M., Despina L, Keller J., **Popescu M**, Guidoboni G, Rantz M., "Monitoring the Relative Blood Pressure Using a Hydraulic Bed Sensor System," in *IEEE Transactions on Biomedical Engineering*, 2018, doi: 10.1109/TBME.2018.2855639.
48. Shaffer VA, Wegier P, Valentine KD, Belden JL, Caulfield S, Patil SJ, **Popescu M**, Steege, LM, Jain AK, Koopman RJ, "Patient Judgments about Hypertension Control: The Role of Variability, Trends, and Outliers in Blood Pressure Data", *Journal of Medical Internet Research*, July 2018 DOI: 10.2196/11366.
47. Yoshida Y, Boren SA, Soares J, **Popescu M**, Nielson SD, Simoes EJ. Effect of Health Information Technologies on Glycemic Control Among Patients with Type 2 Diabetes. *Curr Diab Rep*. 2018 Oct 18;18(12):130. doi: 10.1007/s11892-018-1105-2. Review. PMID: 30338403
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45. Sheets L, **Popescu M**, Lyttle K, Cho SY, Parker JC., "Longitudinal Changes in Risk Stratification for a Managed Population.", *Stud Health Technol. Inform*. 2017; 245:578-580, PMID: 29295161
44. Liu L, **Popescu M**, Skubic M, Rantz M, Cuddihy P, "An automatic in-home fall detection system using Doppler radar signatures", *Journal of Ambient Intelligence and Smart Environments* 8 (4), 453-466, 2016 (impact factor 0.71).

43. Fenton R, **Popescu M**, Moxley D, "Hospital personnel attitude toward utilization of depth imaging technology in hospital rooms", *Missouri Medicine*, January/February 2016, 113:1, pp. 79-84 (impact factor 0.3), PMID: 27039497.
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39. Popejoy, L.L., Stetzer, F., Hicks, L., Rantz, M.J, Galambos, C., **Popescu, M.**, Khalilia, M.A.& Marek, K.D. Comparing Aging in Place to Home Health Care: Impact of Nurse Care Coordination on Utilization and Costs. *Nursing Economics*. 2015 Nov-Dec;33(6):306-13. (impact factor 0.8)
38. Banerjee, T., Keller, J., **Popescu, M.**, Skubic, M., "Recognizing Complex Instrumental Activities of Daily Living Using Scene Information and Fuzzy Logic", *Computer Vision and Image Understanding* 04/2015; DOI: 10.1016/j.cviu.2015.04.005. (impact factor: 1.36).
37. AR Buck, JM Keller, **M Popescu**, An α -Level OWA Implementation of Bounded Rationality for Fuzzy Route Selection, *Advance Trends in Soft Computing*, pp253-260, Springer, 2014
36. Shin D, Arthur G, **Popescu M**, Korkin D, Shyu CR, "Uncovering influence links in molecular knowledge networks to streamline personalized medicine", *J Biomed Inform.* 2014 Dec;52:394-405. doi: 10.1016/j.jbi.2014.08.003. Epub 2014 Aug 19.
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34. M. Khalilia, **M. Popescu**, "Relational Fuzzy Self-Organizing Maps for Cluster Visualization and Summarization", *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, Vol. 22, No. 6 (2014) 913–940.
33. MJ. Rantz, M Skubic, **M. Popescu**, C Galambos, RJ. Koopman, GL. Alexander, LJ. Phillips, K Musterman, J Back, SJ. Miller, "A New Paradigm of Technology Enabled "Vital Signs" for Early Detection of Health Change", *Gerontology*, Nov. 2014, DOI: 10.1159/000366518.
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29. M. Rantz, T. Banerjee, E. Cattoor, S. Scott, M. Skubic, **M. Popescu**, "Automated Fall Detection With Quality Improvement "Rewind" to Reduce Falls in Hospital Rooms", *J of Gerontological Nursing*, Vol. 40, No. 1, 2014, pp. 13-17.
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25. J-F Chang, **M Popescu**, G. L. Arthur, "Automated Extraction of Precise Protein Expression Patterns in Lymphoma by Text Mining Abstracts of Immunohistochemical Studies", *J Pathol. Informatics*, Vol. 4, no.1, 2013, pp. 1-20.
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22. **M. Popescu**, A. Mahnot, "Early Illness Recognition in Older Adults Using In-Home Monitoring Sensors and Multiple Instance Learning", *Methods of Informatics in Medicine*, 2012 Aug 7;51(4):359-67.
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40. **M. Popescu**, K. Stone, J. Keller, "Detection of targets in forward-looking infrared imaging using a multiple instance learning framework", proceedings of SPIE Defense, Orlando, FL, April 24-29, 2011.
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10. **M. Popescu**, J. Keller, P.D. Gader, "Linguistic Hidden Markov Models", 12th IEEE International Conference on Fuzzy Systems, vol.: 2, pp. 796 – 801, St. Louis, MO, May 2003.
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8. P.D. Gader, **M. Popescu**, "Generalized Hidden Markov Models for Landmine Detection", proceedings SPIE vol. 4742, pp. 349-355, Detection and Remediation Technologies for Mines and Mine-like Targets VII, J. Thomas Broach; Russell S. Harmon; Eds., Orlando, FL, April 2002.
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1. M.E. Shelton, M.E. Sievert, J.C. Reid, J.W. Bowen, D.M. Witten II, **M. Popescu**, "Developing a medical image database with a World Wide Web interface", in R. B. Murray, ed. Computers in Healthcare Education Symposium, pp. 54-55, Philadelphia, PA, April 1997.

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31. K Powell, P Amewudah, **M Popescu**, G Alexander, D Mehr, S Lee, "Extracting Medication Names and Associated Attributes from Text Messages", AMIA Fall Symposium, New Orleans, LA, November 2023.
30. Powell, KR, Amewudah, P, Lee, S., **Popescu, M.**, "Characteristics and Predictors of Avoidable Nursing Home-To-Hospital Transfer of Residents with Alzheimer's Disease and Related Dementias". Midwest Nursing Research Society Annual Research Conference, Des Moines, IA, March 2023
29. Y Chen, Marius Petruc, R Hammer, D Xu, M Popescu, Assessment of ChatGPT on Gene Relationships in Biological Pathways, AMIA Fall Symposium, New Orleans, LA, November 2023.
28. M Arowolo, JL Thompson, M Azam, F. He, Mihail Popescu, and D Xu
Extracting Gene Pathways from Figures Using Pool-Less Active Learning, AMIA Fall Symposium, New Orleans, LA, November 2023.
27. Y. Chen, D. Xu, and **M. Popescu**, Integration of Gene Regulatory Pathways Found in the Literature in a Graph Database, Proceedings of BIBM, Las Vegas, NV, Dec 5-8, 2022.
26. M. Kovalenko, **M Popescu**, "Exploration of Disease Pathways Using Simple Graph Comparison Methods", Proceedings of AMIA Annual Symposium, Nov. 5-9, Washington DC, 2022
25. Bath J, Al-Sadr HO, **Popescu M**, Sheahan L, Gloss C, Vogel TR. "A Novel Method of Quantifying Perfusion in Peripheral Arterial Disease Using Thermal Imaging". Midwestern Vascular Surgical Society 44th Annual Meeting, Minneapolis, September 11th, 2020.
24. Petruc M, **Popescu M**, "Assessing Inter-Hospital Clinical Processes Variability with Process Mining", Proc. of AMIA Fall Symposium, Washington DC, Nov 4-8, 2017, pp 2161.
23. Wang Z, **Popescu M**, "Semantic Analysis of a Nursing Home EHR for Sensor Data Annotation", Proc. of AMIA Fall Symposium, Washington DC, Nov 4-8, 2017, pp 2062.
22. Ibrahim O, **Popescu M**, Keller J, "Unsupervised Analysis of Activity Patterns in Eldercare", Proc. of AMIA Fall Symposium, Washington DC, Nov 4-8, 2017, pp. 2065.
21. Jain A, **Popescu M**, Keller J, "Linguistic Summarization of Sensor Data Leading to Health Events", Proc. of AMIA Fall Symposium, Washington DC, Nov 4-8, 2017, pp 2067.
20. P. Wegier, J.L. Belden, S.M. Canfield, S.J. Patil, V.A. Shaffer, L.M. Steege, **M. Popescu**, KD Valentine, A. Jain, A.M. Hathaway, M.L. LeFevre, R.J. Koopman, "Designing data visualizations to support shared decision making about blood pressure", 38th Annual North American Meeting of the Society for Medical Decision Making, Vancouver, CA, October 23 - 26, 2016
19. V.A. Shaffer, P. Wegier, J.L. Belden, S.M. Canfield, S.J. Patil, , L.M. Steege, **M. Popescu**, KD Valentine, A. Jain, A.M. Hathaway, M.L. LeFevre, R.J. Koopman, "How do patients interpret variability and slope in blood pressure data visualizations?", 38th Annual North American Meeting of the Society for Medical Decision Making, Vancouver, CA, October 23 - 26, 2016.
18. Lyons, V. E., Popejoy, L. L., Vogelsmeier, A., Wakefield, B., Alexander, G., & **Popescu, M.** "Checking out checklists: A mixed methods study comparing the use of surgical safety checklists in rural and urban operating rooms", Association of periOperative Registered Nurses (AORN) annual meeting, Anaheim, Ca, April 2016.

17. L. Popejoy, **M. Popescu**, M. Khalilia, V. Lyons, M. Rantz, C. Galambos, L. Hicks, F. Stetzer, "Developing an ontology of nursing care coordination using natural language processing", AMIA Fall Symposium, Chicago, IL, Nov. 2012, pp. 1902.
16. **M. Popescu**, Z. Zeng, M. Skubic, "Health Assessment Using Sensor Sequence Alignment and EHR Data", AMIA Annual Symposium, Washington DC, Oct. 22-26, 2011.
15. L. Liu, **M. Popescu**, M. Skubic, M. Rantz, T. Yardibi, P. Cuddihy, "Automatic Fall Detection Based on Doppler Radar Motion Signature", 5th International Conference on Pervasive Computing Technologies for Healthcare, Dublin, Ireland, May 23-26, 2011. **Awarded best poster award.**
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13. M. Petruc, D. Shin, G. Arthurs, **M. Popescu**, C. Caldwell, C.R. Shyu, "Multi Specialty Image Repository for Clinical Translational Research", proceedings of AMIA Fall Symposium, Washington DC, November 13-17, 2010, pp. 1218.
12. R. Amjad, T. Keim, R. Fales, **M. Popescu**, "Modeling Desaturation and Recovery in Neonatal Infants Using Dynamic Fuzzy Logic", proceedings of AMIA Fall Symposium, Washington DC, November 13-17, 2010, pp. 968.
11. G.L. Arthur, **M. Popescu**, Y. Gong, C. Caldwell, "A Fuzzy Logic-based Decision Support System for the Pathologic Diagnosis of Small B-cell Lymphomas", proceedings of AMIA Fall Symposium, San Francisco, CA, November 14-18, 2009, pp. 765.
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8. T.C. Havens, J.C. Bezdek, J.M. Keller, **M. Popescu**, "Dunn's Cluster Validity Index As a Contrast Measure of VAT Image", proceedings of ICPR 2008, Tampa, FL, Dec. 8-11, 2008.
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5. G. Arthur, **M. Popescu**, F. Rahmatpanah, O. Sjahputera, J. Keller, H. Shi, C.W. Caldwell, "A method for simultaneous gene selection in B-cell lymphoma from methylation and expression microarrays", International Symposium on Comp. Biology (ISMB2005), Detroit, MI, June 2005.
4. **M. Popescu**, J. Keller, C. Carson, "Escherichia Coli source tracking using Hidden Markov Models", MCBIOS, Little Rock, Arkansas, November 2003.
3. J.E. Andrews, T.B. Patrick, D.E. Moxley, C.M. Meyer, **M. Popescu**, M.E. Sievert. Using Co-occurrence Data to Determine a Thesaurus Structure, JAMIA Supplement, p. 968, 1998.
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1. T.B. Patrick, J.C. Reid, M.E. Sievert, J.E. Andrews, C.M. Meyer, **M. Popescu**, "Determining Locally Preferred Expressions for Standard Clinical Concepts", proceedings of the American Medical Informatics Association Spring Congress, p. 70, 1998.

PUBLICATIONS/PRESENTATIONS (Other)

4. **M. Popescu**, "Linguistic Hidden Markov Models: Theory and Applications", plenary talk, North American Fuzzy Inf. Processing Society Conference, June 23-26, 2007, San Diego, CA.

3. **M. Popescu**, G. Arthur, F. Rahmatpanah, O. Sjahputera, J. Keller, H. Shi, C.W. Caldwell, "Small B-cell Lymphoma Classification by Differential Gene Methylation", talk, National Library of Medicine Informatics Training Conference, Washington DC, July 2005.
2. J.M. Keller, **M. Popescu**, "Tutorial on Soft Computing in Bioinformatics", the 14th IEEE International Conference on Fuzzy Systems, Reno, Nevada, May 2005.
1. J.M. Keller, **M. Popescu**, J.A. Mitchell, "Soft Computing Tools for Gene Similarity Measures in Bioinformatics", talk, 2003 International Joint Workshop on Soft Computing for Internet and Bioinformatics FLINT-CIBI; Dec 15-19, University of California, Berkeley, California, 2003.

INTRAMURAL ABSTRACTS/POSTERS/PRESENTATIONS

2. G. Arthur, **M. Popescu**, K. Taylor, C.W. Caldwell, "Evaluation of CpG Island DNA Motifs Associated with Aberrant Methylation", Mizzou Life Sciences Week, April 16-18, Columbia, MO, 2007.
1. **M. Popescu**, G. Arthur, C.W. Caldwell, "Small B-Cell Lymphoma Classification Using Differential Gene Methylation Microarray Data ", Mizzou Life Sciences Week, April 11-15, Columbia, MO, 2005.

BOOKS

2. **M. Popescu**, D. Xu (Eds.), Data Mining Applications Using Ontologies in Biomedicine, Artech House, London, 2009.
1. D. Xu, J.M. Keller, **M. Popescu**, R. Bondugula, "Application of Fuzzy Logic in Bioinformatics", Imperial College Press, London, 2008.

BOOK CHAPTERS

6. Lee S, **Popescu M**, Osaba E, Special Issue Editors "Smart Processing for Systems under Uncertainty or Perturbation", Electronics J, MDPI, March, 2022.
5. M. Rantz, K.R Lane, L Popejoy, C. Galambos, L Phillips, L Hicks, G Alexander, L Despins, R Koopman, M Skubic, **M Popescu**, J Keller, Aging in Place: Innovative Teams", in Using Nursing Research to Shape Health Policy, P Grady and A Hinshaw eds., New York: Springer Publishing Company, 2017.
4. G. Brown, K. Pasupathy, **M. Popescu**, "Knowledge-based Clinical Decision Making", in Principles of Health Systems Informatics, G. Brown, K. Pasupathy and T. Patrick eds., 2012.
3. G. Brown, K. Pasupathy, **M. Popescu**, "Analytics in Medical Knowledge Management", G. Brown, K. Pasupathy and T. Patrick eds., in Principles of Health Systems Informatics, 2012.
2. **M. Popescu**, "Fuzzy clustering of large relational bioinformatics datasets", in Scalable Fuzzy Algorithms for Data Management and Analysis: Methods and Design", A. Laurent, M.J. Lessot eds., IGI Global, Information Science Publishing, 2009.
1. O. Sjahputera, **M. Popescu**, J.M. Keller, C.W. Caldwell, "Fuzzy Approaches for CpG Islands Methylation Analysis", in Computational Intelligence in Bioinformatics, D. Corne, G. Fogel, eds., IEEE CS Press/Wiley, pp.141-168, 2007.

INVITED PRESENTATIONS

6. **M. Popescu**, "Uncertainty modeling in biomedicine using ontologies", Gwangju University, Korea, August 25, 2009.
5. **M. Popescu**, "Linguistic algorithms in eldercare", invited talk, DeMonfort University, Leicester, UK, May 2008.
4. **M. Popescu**, "Linguistic Hidden Markov Models: Theory and Applications", plenary talk, National Meeting of the North American Fuzzy Information Processing Society, San Diego, CA, June 24-27, 2007.
3. J. Keller, **M. Popescu**, "Soft Computing in Bioinformatics", tutorial, 14th IEEE International Conference on Fuzzy Systems, Reno, Nevada, May 2005.

2. J.M. Keller, **M. Popescu**, J.A. Mitchell, "Gene Ontology-based Similarity Measures for Gene Clustering and Knowledge Discovery", invited talk, City University of Hong Kong, 2004.

1. J.M. Keller, J.C. Bezdek, **M. Popescu**, N. Pal, J.A. Mitchell, J. Huband, "Gene Ontology Similarity Measures based on Linear Order Statistics", invited talk, Siemens Corporation, Munich, Germany, 2003.

TEACHING ACTIVITIES

- CS 8001: "Natural language processing"
- MUII 8870: "Knowledge Representation in Biomedicine"
- HMI 8441: "Controlled Terminologies in Health Care"
- HMI 8478: "Knowledge Management in Health Care"
- Medical school, M1 students (first year), PBL tutor Block1.

RESEARCH

Funded

- **Principal investigator**, "Using medical ontologies for mining patient records", UM research board grant, \$29,000, 2007.
- Co-investigator in "Uncertainty Modeling in Technologies for the Elderly", EPSRC - UK research council grant, \$100,000, 2007.
- Co-investigator in "Person-in-the-loop IED Cuing", Fort Leonard Wood Institute, \$300,000, 2008.
- Co-investigator in "A Human-Centered Design for Effective Sensor Data Display at TigerPlace", MU Center of Aging, \$8000, 2009.
- **Principal Investigator**, NSF IIS-1115956, "SHB: Small: Computational Algorithms for Predictive Health Assessment", \$150,000, 2011-2013.
- Co-PI, NSF, Marjorie Skubic, PI, NSF CNS-0931607, "CPS: Active Heterogeneous Sensing for Fall Detection and Fall Risk Assessment", \$1,400,000, 2010-2013.
- Co-Investigator, Army Research Office, James Keller, PI, Applied Research in High Speed Multiple Image Exploitation and Image/Temporal Fusion for Person-in-the-loop IED Cuing, \$1,000,000/year, 2011-2014.
- Co-Investigator, NIH –R15, "Care Coordination for Older Adults: Process, Outcomes, and Cost", Lori Popejoy, PI, \$450,660, 2011-2014.
- Key personnel, National Geospatial Intelligence Agency, James Keller and Tim Haithcoat, PIs, \$300,000, 2010-2014.
- **Principal Investigator**, NIH-NLM, 1R01LM012221-01A1, Linguistic Summarization of Sensor Data for Early Illness Recognition in Eldercare, \$911,000, 08/01/16-07/31/20.
- Co-Investigator, Agency for Healthcare Research & Quality (AHRQ), 1R01HS023328, Koopman, Richelle (PI), "Optimizing Display of Blood Pressure Data to Support Clinical Decision Making, \$2,300,000, 07/01/15-04/30/20.

Current

- **Principal Investigator**, NIH-NLM, 5R01LM013392-02, "Image-Guided Biocuration of Disease Pathways From Scientific Literature", \$1,541,086, 04/01/2020 – 03/31/2025.
- Co-Investigator, NIH/NIA, R01AG066081 (McCrae PI), \$2,481,762, 01/01/2021 – 12/31/2025
- Co-Investigator, Washington University Center for Diabetes Translational Research (CDTR), Simoes (PI), \$100,000/year, 07/01/21-04/30/25.
- Co-Investigator, NIH, Kim Powell (PI), \$1,500,000, 1R01AG078281, "iCHAT-TM: Interdisciplinary Communication in Nursing Homes About Resident Transfer using Text Messages", 07/01/2022 – 6/30/2025
- Co-Investigator, DOD, Bill Janes (PI), \$1,500,000, AL210017, 09/2022 – 09/30/2027
- Co-Investigator, NSF, Marge Skubic (PI), IUCRC center, 09/2022 – 09/30/2027.

INTELLECTUAL PROPERTY

1. M. Skubic, M. Rantz, **M. Popescu**, S. Wang, I Sledge, RD Guevara, E Florea, J. Keller, "Integrated Sensor Network Methods and Systems", US patent #10,188,295, 2010, #11,147,451, 2021.
3. E. Stone, M. Skubic, M. Rantz, **M. Popescu**, "Activity Analysis, Fall Detection, and Risk Assessment Systems and Methods", patents #14,169,508; #10,080,513, 2018; #9,597,016, 2017.
4. S. Ahmad, J. Gillis, C. Prasad, **M. Popescu**, A. Bartels, S. Barnes, "Method and system for prioritizing responder resources", US Patent pending, 2017.

PROFESSIONAL ORGANIZATIONS

- Institute of Electrical and Electronics Engineers (IEEE), Senior Member
- IEEE Computational Intelligence Society (CIS), member
- IEEE Engineering in Medicine and Biology Society (EMBS), member
- American medical informatics association, AMIA, member

Mihail Popescu



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